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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/770,792	12/19/1996	JUN KOYAMA	07977/105001	3931

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EXAMINER

NGO, HUYEN LE

ART UNIT PAPER NUMBER

2871

DATE MAILED: 02/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

08/770,792

Applicant(s)

KOYAMA ET AL.

Examiner

Julie-Huyen L. Ngo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/5/3.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4,6,13,14,17,21-25,30,31,35,36,40-42,44,51-56,61-64 and 69-72 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4,6,13,14,17,21-25,30,31,35,36,40-42,44,51-56,61-64 and 69-72 is/are rejected.
- 7) ☒ Claim(s) 51-56 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 4, 2002 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 51-56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 51-56 recite, "said side edge of said counter substrate and said side edge of said first substrate," which lacks antecedence.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 4, 6, 13, 14, 17, 21-25, 30, 31, 35, 36, 40-42 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawatsubashi et al. (U.S. 5,148,301).

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Since the method claims are just the steps of forming the elements of the device, the method claims would have been obvious in view of the device. Therefore, the method claims are treated below with the corresponding device claims.

Sawatsubashi et al. disclose (Cols. 4-6 and Figures 3-5) an active matrix liquid crystal display (LCD) comprising:

- a plurality of pixel TFTs (104) arranged in rows and columns over a TFT/first substrate (101) and arrayed in a matrix;
- a bus line (Gm/Dn) provided over said first substrate and connected with at least one of said pixel TFTs;
- a counter substrate (102) located opposite to said first substrate;
- a layer of a liquid crystal material (109) provided between said first substrate (101) and said counter substrate (102);
- a sealing material (108) sealing said liquid crystal material (109) and provided between said first substrate (101) and said counter substrate (102), said sealing material provided outside at least said pixel TFTs; and
- a control circuit comprising a control circuit chip (112a/112b or 113a/113b) provided under and in contact with said sealing material (108), said control circuit provided over said first substrate (see figs. 3-4)

The first and counter substrates of said LCD were cut outside said sealing material having said control circuit under and in contact with said sealing material.

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Claims 61-64 and 69-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted Prior Art (APA) in view of Inoue et al. (U.S. 5854664), McClelland et al (US4695490) and Sasaki et al (US 4494825).

APA discloses (p.2, lines 14-23, Figs 2-6) a conventional active matrix liquid crystal display comprising all the elements recited in claims 61-64 and 69-72 exclusive of:

- a non-conductive or weakly conductive material applied to the side edge of the TFT substrate (505), the side edge of the counter substrate (501) and a part of the bus line (504)

Wherein said non-conductive or weakly conductive material is provided on an outer side of a sealing material (502).

Although the APA device does not explicitly mention about a channel formation region, which provides in a semiconductor film provided in the first substrate, and a gate electrode with a gate insulating film there between, which has a thickness of 500 to 2000A, it is well known and conventional in the art for a TFT to have such a layer structure with a gate insulating film thickness of 500-2000A. Therefore, the APA device would obviously comprise all of these features.

Furthermore, it is well known and conventional in the art to provide a non-conductive or weakly conductive material to cut side edges of glass substrates and cut side edge of a bus line for sealing the cut side edges of a liquid crystal display device (LCD), as taught by Inoue et al (col. 9, lines 25-31), McClelland et al. (col. 1, line 9-col. 2, line 26), and Sasaki et al. (Figure 2, col. 2, lines 35-48).

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Therefore, it would have been obvious to provide a non-conductive or weakly conductive material to the cut side edges of the substrates and bus line (504) in the APA LCD device for completely sealing said side edges and said bus line, as taught by Inoue et al, McClelland et al, and Sasaki et al.

Thus claims 61-64 and 69-72 would have been obvious over Applicant's admitted Prior Art (APA) in view of Inoue/ McClelland/Sasaki as applied above.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 4, 6,13,14, 17, 21-25, 30, 31, 35, 36, 40-42, 44, 61-64 and 69-72 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of Koyama et al (U.S. 6246454) in view of Inoue et al (U.S. 5854664), McClelland et al (US4695490) and Sasaki et al (US 4494825), as set forth below:

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Since the method claims are just the steps of forming the elements of the device, the method claims would have been obvious in view of the device. Therefore, the method claims are treated below along with the corresponding device claims.

Claims 17-19 and 25 of Koyama comprise all the limitations of claims 4, 6, 13, 14, 17, 21-25, 30, 31, 35, 36, 40-42, 44, 61-64 and 69-72 exclusive of:

_ a non-conductive or weakly conductive material applied to the side edges of the TFT substrate, counter substrate and a part of the bus line, wherein said non-conductive or weakly conductive material is provided on an outer side of a sealing material (903)

_ a channel formation region provided in a semiconductor film provided in the first substrate, and a gate electrode with a gate insulating film there between, which has a thickness of 500 to 2000 Å

However, the limitations of the channel formation region are fully disclosed in Koyama device (col. 3, lines 45-50 and col. 5, lines 31-41), and although claims 17-19 and 25 of Koyama do not explicitly include all of these limitations, it is understood that these claims are inherently included more than what being recited since the claim language in Koyama states that "An active matrix liquid crystal display **comprising**." This language encompasses for more than what was being recited in the claims.

Further more, any features that are not recited in a claim, but disclosed in the disclosure; it is indicated that the features are not critical and essential to the invention.

Nevertheless, the set forth above features are well known and conventional for one of ordinary skill in the art to make and use such features, particularly the application

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of the non-conductive or weakly conductive material as set forth above in the rejection, as taught by Inoue/ McClelland/Sasaki.

Therefore, claims 4, 6, 13, 14, 17, 21-25, 30, 31, 35, 36, 40-42, 44, 61-64 and 69-72 would have been obvious over the disclosed device and claims 17-19 and 25 of Koyama, and further in view of Inoue/ McClelland/Sasaki.

Response to Arguments

Applicant's arguments filed November 4, 2002 have been fully considered but they are not persuasive since Applicant argues that the JP document ('446A) fails to show, i.e., "the thermosetting resin seals over a liquid crystal," which was not recited in the rejected claims.

However, Applicant's arguments with respect to claims 4, 6, 13, 14, 17, 21-25, 30, 31, 35, 36, 40-42, 44 and 51-56 have been considered, but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6163357A discloses a Liquid Crystal Display device having the driving circuit disposed in the seal area, with different spacer density in driving circuit area than display area.

US 6011607A discloses an active matrix display with sealing material over an integrated circuit 211.

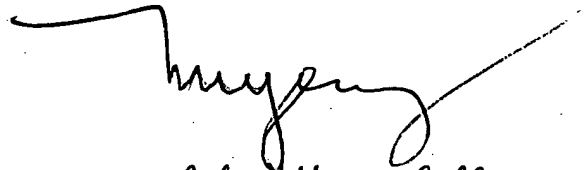
Contact Information

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Julie-Huyen L. Ngo whose telephone number is (703) 305-3508. The Examiner can normally be reached on T-Friday.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Mr. Robert H. Kim can be reached at (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-4709 for regular communications and (703) 746-4709 for After Final communications. Please contact the Examiner before faxing any paper to the Office.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

February 21, 2003



Julie-Huyen L. Ngo

**Patent Examiner
Art Unit 2871**